

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. 96-026

WASTE DISCHARGE REQUIREMENTS
FOR
COUNTY OF SIERRA
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
LOYALTON SANITARY LANDFILL FACILITY
CLASS III LANDFILL
SIERRA COUNTY

The California Regional Water Quality Control Board, Central Valley Region (hereafter Board), finds that:

1. The County of Sierra Department of Public Works and Transportation (hereafter Discharger) owns and operates the Loyalton Sanitary Landfill. The facility was previously regulated by Waste Discharge Requirements Order No. 90-143 in conformance with Title 23, California Code of Regulations (CCR), Division 3, Chapter 15 (hereafter Chapter 15). Order No. 90-143 was amended 17 September 1993 by Order 93-200, which implements State Water Resources Control Board Resolution No. 93-62 and federal municipal solid waste regulations (hereafter RCRA Subtitle D).
2. The 29-acre facility, Assessor's Parcel No. 016-090-038-0, contains a single landfill which is owned and operated by the Discharger. Waste disposal of municipal and commercial solid wastes takes place within 10 acres at the facility. The facility is 0.75 miles east-southeast of Loyalton, at an elevation of about 5000 feet, in Section 17, T21N, R16E, MDB&M, as shown in Attachment A, which is incorporated herein and made part of this Order.
3. The waste management facility consists of a single landfill containing modules 1 through 4 as shown on Attachment B, which is incorporated herein and made part of this Order.
4. The landfill is exempt from RCRA Subtitle D liner requirements because:
 - a. The site receives less than 20 tons of waste per day on an average annual basis and there is no evidence of existing ground water contamination [RCRA Part 238. Subpart A. 258.1 (f)(1)]; and
 - b. The Loyalton community has no practicable waste management alternative and is in an area that annually receives less than 25 inches of precipitation [RCRA Part 238. Subpart A. 258.1 (f)(1) ii].

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WASTES AND THEIR CLASSIFICATION

5. The Discharger proposes to discharge municipal solid wastes from sources within Sierra County. These wastes are classified as 'non-hazardous solid waste' and 'inert waste' under Chapter 15.

DESCRIPTION OF SITE

6. Upstream from the landfill, the Discharger installed a dam to divert winter runoff, which otherwise would pass through the landfill site. The diversion structures are designed to accommodate peak runoff from the 100-year storm.
7. Land within 1,000 feet of the site is open range.
8. The landfill overlies sands, silts, and gravels of an alluvial fan derived from the Bald Mountain Range. The soils immediately underlying the landfill are moderately permeable cobbly sandy loam soils of the Badenaugh series. Soil borings in the landfill's vicinity and trench face inspections show that sand and gravel lenses are frequently interbedded with silts and clays in the strata beneath the Badenaugh series soils.
9. Interbedded clay and silt strata form numerous confined and semi-confined aquifers beneath the landfill. The first water-bearing formation or shallow aquifer is more than 30 feet below the base of the landfill. A regional aquifer of good quality water underlies the Sierra Valley deeper than 100 feet. Seasonal water level changes occur in the shallow aquifer.
10. The Discharger had installed six monitoring wells to provide background water quality data in accordance with Article 5 of Chapter 15, and to better understand the flow direction and gradient of shallow ground water. Ground water monitoring reports, beginning in 1989, show no water quality impact from the landfill. Well locations are shown in Attachment B.
11. The beneficial uses of ground water are municipal, domestic, agricultural and stock watering.
12. Surface drainage is to Smithneck Creek, a tributary to the Middle Fork of the Feather River, which in turn flows into the Sacramento River.
13. The beneficial uses of these surface waters are domestic, municipal, agricultural and industrial supply, ground water recharge, recreation, aesthetic enjoyment, fresh water replenishment and habitat, spawning, wildlife habitat and the preservation and enhancement of fish, wildlife and other aquatic resources.

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OPERATION OF FACILITIES

14. The Discharger uses the area landfilling method. During the dry months (usually May through September), alternating layers of waste and soil are laid down in a 120 square foot area. The refuse to soil ratio is 4: 1 and the completed cell depth is 6-8 feet with a 2-foot cover layer of compacted soil on the top and face. During wet periods, the Discharger deposits refuse directly into a trench about 30 feet wide and 20 to 30 feet deep and covers the waste with soil stored nearby.
15. The landfill is projected to reach capacity, at the earliest, by the year 2032. The total landfill capacity is 744,000 cubic yards.

CEQA AND OTHER CONSIDERATIONS

16. The action to revise WDRs for this facility is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000, et seq.), in accordance with Title 14, CCR, Section 15301.
17. On 9 October 1991, the United States Environmental Protection Agency (USEPA) promulgated regulations (Title 40, Code of Federal Regulations, Parts 257 and 258, "federal MSW regulations" or "Subtitle D") that apply, in California, to dischargers who own or operate Class II or Class III landfill units at which municipal solid waste (MSWLF) is discharged. The majority of the federal MSW regulations became effective on the "Federal Deadline", which is 9 October 1994.
18. This Order implements
 - a. the Water Quality Control Plan, Third Edition, for the Sacramento River Basin and the San Joaquin River Basin;
 - b. the prescriptive standards and performance goals of Chapter 15, Division 3, Title 23 of the California Code of Regulations, effective 27 November 1984, and subsequent revisions;
 - c. the prescriptive standards and performance criteria of Part 258, Title 40 of the Code of Federal Regulations (Subtitle D of the Resource Conservation and Recovery Act); and
 - d. State Water Resources Control Board Resolution No. 93-62, Policy for Regulation of Discharges of Municipal Solid Waste, adopted 17 June 1993.
19. RCRA Subtitle D requires that a closure plan be prepared and submitted by 9 October 1998. A preliminary closure plan may be required at an earlier date depending on the actual date of the Facilities Permit review.

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PROCEDURAL REQUIREMENTS

20. All local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved the use of this site for the discharges of waste to land stated herein.
21. The Board has notified the Discharger and interested agencies and persons of its intention to revise the waste discharge requirements for this facility.
22. In a public hearing, the Board heard and considered all comments pertaining to this facility and discharge.

IT IS HEREBY ORDERED that Order No. 90-143 is rescinded and Attachment I of Order 93-200 is amended to delete Sierra County Department of Public Works and Transportation (for Loyalton Sanitary Landfill Facility), and it is further ordered that Sierra County and its agents, assigns and successors, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. DISCHARGE PROHIBITIONS

1. The discharge of 'hazardous waste' or 'designated waste' at this site is prohibited. For the purposes of this Order 'hazardous waste' and 'designated waste' are as defined in Chapter 15.
2. The discharge to landfill units of liquid or semi-solid waste (i.e., waste containing less than 50% solids), except dewatered sewage or water treatment sludge as provided in Section 2523 (c) of Chapter 15, is prohibited.
3. The discharge to landfill units of solid waste containing free liquid or moisture in excess of the waste's moisture holding capacity is prohibited.
4. The discharge of containerized liquids with an aggregate volume of more than one gallon at this facility is prohibited.
5. The discharge of fuel products or cleaning solvents to the ground or surface waters is prohibited.
6. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, or to ground water is prohibited.

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7. The discharge of waste to ponded water from any source is prohibited.
8. The discharge of waste within 100 feet of surface waters not related to landfill drainage structures is prohibited.
9. The discharge of wastes which have the potential to reduce or impair the integrity of containment structures or which, if commingled with other wastes in the unit, could produce violent reaction, heat or pressure, fire or explosion, toxic byproducts, or reaction products which in turn:
 - a. require a higher level of containment than provided by the unit;
 - b. are restricted 'hazardous wastes'; or
 - c. impair the integrity of containment structures

is prohibited.

B. DISCHARGE SPECIFICATIONS

General Specifications

1. Wastes shall only be discharged into, and shall be confined to the landfill specifically designed for their containment.
2. For each module of the landfill, a minimum separation of 5 feet shall be maintained between wastes or leachate and the highest anticipated elevation of underlying ground water including the capillary fringe.
3. Before waste is discharged to a new module, all wells within 500 feet of the unit shall have sanitary seals which meet the requirements of the Sierra County Health Department or shall be abandoned according to procedures promulgated by the State Department of Water Resources. A record of the sealing and/or abandonment of such wells shall be sent to the Board and the State Department of Water Resources.
4. Water used for facility maintenance shall be limited to the minimum amount necessary for dust control.

General WMU Construction

5. Materials used to construct low permeability barrier layers shall have appropriate physical and chemical properties to ensure containment of discharged wastes over the operating life, closure, and post-closure maintenance period of the landfill.

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6. Clay barrier layers in landfill caps shall have a hydraulic conductivity of 1×10^{-6} cm/s or less and a minimum relative compaction of 90%. Hydraulic conductivities of barrier materials shall be determined by laboratory tests using synthetic leachate and water, respectively. Hydraulic conductivities determined through laboratory methods shall be confirmed by field testing in accordance with the Standard Provisions and Reporting Requirements as described in Provision D.1.

Water Quality Protection Standards

7. The concentrations of indicator parameters or waste constituents in waters passing through the Points of Compliance shall not exceed the "water quality protection standards" established pursuant to Monitoring and Reporting Program No. 96-026, which is attached to and made a part of this order.

Protection From Storm Events

8. Precipitation and drainage control systems shall be designed, constructed, and maintained to accommodate the anticipated volume of precipitation and peak flows from surface runoff under 100-year, 24-hour precipitation conditions without washout or inundation.
9. Waste management units shall be designed, constructed, and operated in compliance with precipitation and flood conditions contained in the Standard Provisions and Reporting Requirements referenced in Provision D.1, below.
10. Annually, prior to the anticipated rainy season, any necessary erosion control measures shall be implemented, and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding of the site and to prevent surface drainage from contacting or percolating through wastes.

Landfill Specifications

11. New landfill units and lateral expansions shall not be located in wetlands unless the Discharger has successfully completed, and the Board has approved, all demonstrations required for such discharge under 40 CFR 258.12(a).
12. Landfill leachate shall be discharged by a Board-approved method.

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Landfill Closure Specifications

13. Closure of the Landfill shall be under the direct supervision of a California registered Civil Engineer or certified engineering geologist.
14. At closure, the Landfill shall receive a final cover consisting, at a minimum, of a two foot thick foundation layer which may contain waste materials, overlain by a one foot thick clay barrier layer, and finally by a one-foot thick vegetative soil layer.
15. Vegetation shall be planted and maintained over the closed landfill. Vegetation shall be selected to require a minimum of irrigation and maintenance and shall have a rooting depth not in excess of the vegetative layer thickness.
16. The closed landfill shall be graded to at least a three percent grade and maintained to prevent ponding.

C. RECEIVING WATER LIMIT

Water Quality Protection Standards

The concentrations of Constituents of Concern in waters passing through the Points of Compliance shall not exceed the Concentration Limits established pursuant to Monitoring and Reporting Program No. 96-026, which is attached to and made part of this Order.

D. PROVISIONS

1. The Discharger shall comply with the Standard Provisions and Reporting Requirements, dated September 1993, which are hereby incorporated into this Order. The Standard Provisions and Reporting Requirements contain important provisions and requirements with which the Discharger must comply. A violation of any of the Standard Provisions and Reporting Requirements is a violation of these waste discharge requirements.
2. The Discharger shall comply with all applicable provisions of 23 CCR Chapter 15 and 40 CFR Part 258 that are not specifically referred to in this Order.
3. The Discharger shall comply with Monitoring and Reporting Program No. 96-026 which is attached to and made part of this Order. This compliance includes, but is not limited to, maintenance of waste containment facilities and precipitation and drainage controls and monitoring ground water and surface waters throughout the active life of

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the waste management units and the post-closure maintenance period. A violation of Monitoring and Reporting Program No. 96-026 is a violation of these waste discharge requirements.

4. The Discharger shall maintain legible records of the volume and type of each waste discharged and the manner and location of the discharge. Such records shall be maintained at the facility until the beginning of the post closure maintenance period. These records shall be available for review by representatives of the Board and of the State Water Resources Control Board at any time during normal business hours. At the beginning of the post-closure maintenance period, copies of these records shall be sent to the Regional Board.
5. Within **six months** of the adoption of these requirements, the Discharger shall submit to the Board, California Integrated Waste Management Board (CIWMB), and to the Department of Health Services (LEA) for approval a report describing a periodic load-checking program to be implemented by the Discharger to ensure that 'hazardous wastes' and 'designated wastes' are not discharged to the Class III Landfill.
6. The Discharger shall provide proof to the Board **within sixty days after completing final closure** that the deed to the landfill facility property, or some other instrument that is normally examined during title search, has been modified to include, in perpetuity, a notation to any potential purchaser of the property stating that: (1) the parcel has been used as a municipal solid waste landfill; (2) land use options for the parcel are restricted in accordance with the post-closure land uses set forth in the post-closure plan and in WDRs for the landfill; and (3) in the event that the Discharger defaults on carrying out either the post-closure maintenance plan or any corrective action needed to address a release, then the responsibility for carrying out such work falls to the property owner.
7. The post-closure maintenance period shall continue until the Board determines that remaining wastes will not threaten water quality.
8. The Board will review this Order periodically and may revise requirements when necessary.
9. The Discharger shall prepare and submit a closure plan to the Board, the Local Enforcement Agency and the California Integrated Waste Management Board by 9 October 1998. If California Code of Regulations, Title 14, requires that a preliminary closure plan be submitted earlier, then the Discharger must meet the earlier date.

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E. REPORTING REQUIREMENTS

1. The Discharger shall comply with the reporting requirements specified in this Order, in Monitoring and Reporting Program Order No. 96-026 and in the Standard Provisions and Reporting Requirements.
2. The Discharger shall notify the Board in writing of any proposed change in ownership or responsibility for construction or operation of the landfill. The Discharger shall also notify the Board of a material change in the character, location or volume of the waste discharge and of any proposed expansions or closure plans. This notification shall be given 90 days prior to the effective date of the change and shall be accompanied by an amended Report of Waste Discharge and any technical documents that are needed to demonstrate continued compliance with these WDRs.
3. In the event of any change in ownership of the landfill, the Discharger shall notify the succeeding owner or operator in writing of the existence of this Order. A copy of that notification shall be sent to the Board.
4. The Discharger shall submit a status report regarding the financial assurances for corrective action and closure every five years after the date of adoption of these requirements that either validates the ongoing viability of the financial instrument or proposes and substantiates any needed changes.

I, WILLIAM H. CROOKS, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region on 26 January 1996.

for Thomas R. Pinkus
WILLIAM H. CROOKS, Executive Officer

Attachments
WJM/NMC/NJS

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The Discharger shall maintain water quality monitoring systems that are appropriate for detection monitoring and that comply with the provisions of Title 23, California Code of Regulations (CCR), Division 3, Chapter 15, Article 5.

Compliance with this Monitoring and Reporting Program, and with the companion Standard Provisions and Reporting Requirements, is ordered by Waste Discharge Requirements Order No. 96-026. Failure to comply with this Program, or with the Standard Provisions and Reporting Requirements, constitutes non-compliance with the WDRs and with the Water Code, which can result in the imposition of civil monetary liability.

A. REPORTING

The Discharger shall report monitoring data and information as required in this Monitoring and Reporting Program and as required in the Standard Provisions and Reporting Requirements. Reports which do not comply with the required format will be **REJECTED** and the Discharger shall be deemed to be in non-compliance with the WDRs. In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner so as to illustrate clearly the compliance with waste discharge requirements or the lack thereof. A short discussion of the monitoring results, including notations of any water quality violations, shall precede the tabular summaries.

Field and laboratory tests shall be reported in the semi-annual monitoring reports. Semi-annual monitoring reports shall be submitted to the Board by the **15th day of the month** following the calendar quarter in which the samples were taken. The results of any monitoring done more frequently than required at the locations specified herein shall be reported to the Board. An annual report shall be submitted to the Board which contains both tabular and graphical summaries of the monitoring data obtained during the previous twelve months, so as to show historical trends at each well. The report shall include a discussion of the progress toward re-establishment of compliance with waste discharge requirements and water quality protection standard.

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Method detection limits and practical quantitation limits shall be reported. All peaks shall be reported, including those which cannot be quantified and/or specifically identified. Metals shall be analyzed according to the methods listed in Attachment D.

B. REQUIRED MONITORING REPORTS

1. Water Quality Protection Standard Report

The Discharger submitted a water quality protection standard in the *"Article 5 Proposed Monitoring Program"* dated 2 July 1992. Any changes to this water quality protection standard shall be described in the annual monitoring report.

2. Detection and Evaluation Monitoring Report

The Discharger shall submit reports of the results of detection and evaluation monitoring in accordance with the schedules specified in this Monitoring and Reporting Program.

3. Annual Monitoring Summary Report

The Discharger shall submit the Annual Monitoring Summary Report as specified in the Standard Provisions and Reporting Requirements.

4. Constituents-of-Concern (COC) 5 Year Report

In the absence of a release being indicated, the Discharger shall monitor all Constituents of Concern for all Monitoring Points for each monitored medium for all COCs every fifth year, beginning with calendar year 1996 (the first Reporting Period ends 31 March 1997) with subsequent COC monitoring efforts being carried out every fifth year thereafter alternately in the Summer (Reporting period ends 30 September) and Winter (Reporting Period ends 31 March). The COC Report may be combined with a Evaluation Monitoring Report or an Annual Summary Report having a Reporting Period that ends at the same time.

Standard Observations

Each monitoring report shall include a summary and certification of completion of all Standard Observations for the waste management unit, for the perimeter of the landfill, and for the receiving waters. The standard observations shall be performed on a weekly basis and shall include those elements as defined in the Standard Provisions and Reporting Requirements.

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C. MONITORING

If the Discharger, through a detection monitoring program, or the Board finds that there is a statistically significant increase in indicator parameters or waste constituents over the water quality protection standards (established pursuant to Monitoring and Reporting Program No. 96-026) at or beyond the Points of Compliance, the Discharger shall notify the Board or acknowledge the Board's finding in writing within seven days, and shall immediately resample for the constituent(s) or parameter(s) at the point where the standard was exceeded. Within 90 days, the Discharger shall submit to the Board the results of the resampling and either:

- a. a report demonstrating that the water quality protection standard was not, in fact, exceeded; or
- b. an amended Report of Waste Discharge for the establishment of a verification monitoring program, per Section 2557 of Chapter 15, which is designed to verify that water quality protection standards have been exceeded and to determine the horizontal and vertical extent of pollution.

If the Discharger, through an evaluation monitoring program, or the Board verifies that water quality protection standards have been exceeded at or beyond the Points of Compliance, the Discharger shall notify the Board or acknowledge the Board's finding in writing within seven days. Within 180 days, the Discharger shall submit to the Board an amended Report of Waste Discharge for the establishment of a corrective action program, per Section 2558 of Chapter 15, which is designed to achieve compliance with the water quality protection standards.

D. REQUIRED MONITORING PROGRAMS

1. Detection Monitoring Program

For each monitored medium, all Monitoring Points assigned to detection monitoring shall be monitored according to the schedules listed in this Program. The Discharger shall submit the monitoring reports semi-annually.

For any given monitored medium, a sufficient number of samples shall be taken from all Monitoring Points to satisfy the data analysis requirements for a given Reporting Period, and shall be taken in a manner that ensures sample independence to the greatest extent feasible.

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Ground water sampling shall also include an accurate determination of the ground water surface elevation and field parameters (pH, temperature, electrical conductivity, turbidity) for that Monitoring Point. Ground water elevations taken prior to purging the well and sampling for Monitoring Parameters shall be used to fulfill the ground water gradient/direction analyses required. For each monitored ground water body, the Discharger shall measure the water level in each well and determine ground water gradient and direction at least quarterly, including the times of expected highest and lowest elevations of the water level for the respective ground water body. Ground water elevations for all upgradient and down gradient wells for a given ground water body shall be measured within a period of time short enough to avoid temporal variations in ground water flow which could preclude accurate determination of ground water gradient and direction. This information shall be included in the semi-annual monitoring reports.

Statistical or non-statistical analysis should be performed as soon as the monitoring data are available.

2. **Solid Waste Monitoring Program**

Nonhazardous Solid Waste Monitoring

The Discharger shall monitor all wastes discharged to the Class III landfill on a monthly basis and report to the Board as follows:

<u>Parameter</u>	<u>Units</u>	<u>Reporting Frequency</u>
Quantity discharged	cubic yards or tons	Quarterly
Type of material discharged	---	Quarterly
Source(s) of material discharged	---	Quarterly
Minimum elevation of discharge	feet & tenths MSL	Quarterly
Capacity of landfill/module remaining	percent	Annually

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3. Leachate Monitoring Program

If leachate surfaces, the discharger shall immediately sample the leachate and continue to sample and report the leachate at the frequencies listed in Table I thereafter. Also, should a Leachate Collection Removal System be constructed, it shall be monitored according to the schedule in Table I.

For COC detection, the leachate sump will be sampled in the fourth quarter of the year in which it is constructed, for the parameters and frequencies in Table I. Those COCs that are detected will be analyzed in leachate in the second quarter of the year following the year of construction. Any COCs detected in the retest sample shall be included in the COC list for ground water, surface water and unsaturated zone.

Thereafter, leachate samples for COC detection will be collected annually in the fourth quarter of the year. If constituents are detected that are not already COCs, leachate will be resampled for those constituents only in the second quarter of the following year. If the COC is detected in the retest sample it shall be added to the list of COCs in the ground water monitoring program, the surface water monitoring program, and the unsaturated zone monitoring program.

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TABLE I - LEACHATE MONITORING PROGRAM

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Field Parameters		
Total Flow	gallons	Monthly
Flow Rate	gallons/day	Monthly
Specific Conductance	μ mhos/cm	Monthly
pH	number	Monthly
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Quarterly
Chlorides	mg/L	Quarterly
Sulfates	mg/L	Quarterly
Nitrate - Nitrogen	mg/L	Quarterly
Constituents of Concern		
Total Organic Carbon	mg/L	Annually
Carbonate	mg/L	Annually
Bicarbonate	mg/L	Annually
Total Alkalinity	mg/L	Annually
Volatile Organic Compounds (EPA Method 8260, see Attachment D)	μ g/L	Annually
Semi-Volatile Organic Compounds (EPA Method 8270, see Attachment D)	μ g/L	Annually
Organochlorine Pesticide, PCBs (EPA Method 8080)	μ g/L	Annually
Chlorophenoxy Herbicides (EPA Method 8150)	μ g/L	Annually
Inorganics (dissolved) (See Attachment D for Method)	mg/L	Annually

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4. Ground Water Monitoring

Field and laboratory tests shall be reported in the semi-annual monitoring reports. All Monitoring Parameters shall be graphed so as to show historical trends at each well.

The ground water surface elevation (in feet and hundredths, M.S.L.) in all wells shall be measured on a quarterly basis and used to determine the velocity and direction of ground water flow. This information shall be displayed on a water table contour map and/or ground water flow net for the site and submitted with the semi-annual monitoring reports.

The monitoring well network shall consist of background well MW-6, and downgradient wells MW-2, MW-3, MW-5 and the maintenance yard building well. Wells MW-1 and MW-4 shall be checked at each sampling event, and if water is present, its elevation shall be recorded. A sample shall be taken and analyzed for all monitoring parameters and constituents. Locations of these wells are shown on Attachment B. Samples shall be collected from all wells at the frequency and for the parameters specified in Table II.

TABLE II
GROUND WATER MONITORING PROGRAM

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Field Parameters		
Temperature	°C	Semi-annual
Ground Water Elevation	Ft. & hundredths, MSL	Semi-annual
Specific Conductance	μmhos/cm	Semi-annual
pH	number	Semi-annual
Turbidity	Turbidity units	Semi-annual
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Semi-annual
Chlorides	mg/L	Semi-annual
Sulfates	mg/L	Semi-annual
Nitrate as N	mg/L	Semi-annual
Volatile Organic Compounds (EPA Method 8260, See Attachment C)	μg/L	Annual
Constituents of Concern¹		
Total Organic Carbon	mg/L	5 years
Carbonate	mg/L	5 years
Bicarbonate	mg/L	5 years
Alkalinity	mg/L	5 years
Volatile Organic Compounds (EPA Method 8260, See Attachment D)	μg/L	5 years
Semi-Volatile Organic Compounds (EPA Method 8270, See Attachment D)	μg/L	5 years
Organochlorine Pesticide, PCBs (EPA Method 8080)	μg/L	5 years
Chlorophenoxy Herbicides (EPA Method 8150)	μg/L	5 years
Organophosphorus Compounds (EPA Method 8140)	μg/L	5 years
Inorganics (dissolved)* (See Attachment D for Method)	mg/L	5 years

¹ The ground water shall be tested in the first quarter of 1996 for the entire list of COCs listed in Table II. Those COCs that are detected will be analyzed in the spring of 1996. Any COCs detected in the retest sample shall be included in the COC list for ground water. Thereafter, the COCs for the ground water monitoring program shall include those COCs detected and any COCs detected under the leachate monitoring program.

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5. Surface Water Monitoring

An unnamed tributary to Smithneck Creek shall be sampled upstream of the landfill at background monitoring point S-1, and downstream at monitoring points S-2 and S-3. Surface water samples are to be collected in the first quarter of 1996 and quarterly thereafter when water is present. Samples shall be collected from all stations and analyzed at the frequency and for the monitoring parameters specified in Table III.

Surface water monitoring reports shall be submitted with the corresponding semi-annual ground water monitoring reports and shall include evaluation of potential impacts of the facility on surface water quality and compliance with the Water Quality Protection Standard.

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TABLE III - SURFACE WATER MONITORING PROGRAM

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Field Parameters		
Temperature	°C	Quarterly
Specific Conductance	μmhos/cm	Quarterly
pH	number	Quarterly
Turbidity	Turbidity units	Quarterly
Monitoring Parameters		
Total Suspended Solids (TSS)	mg/L	Semi-annual
Total Dissolved Solids (TDS)	mg/L	Semi-annual
Chlorides	mg/L	Semi-annual
Sulfates	mg/L	Semi-annual
Nitrate - Nitrogen	mg/L	Semi-annual
Constituents of Concern¹		
Total Organic Carbon*	mg/L	5 years
Carbonate*	mg/L	5 years
Bicarbonate Alkalinity*	mg/L	5 years
Total Alkalinity	mg/L	5 years
Chemical Oxygen Demand	mg/L	5 years
Dissolved Oxygen	mg/L	5 years
Oil and Grease	mg/L	5 years
Inorganics (dissolved)	mg/L	5 years
(See Attachment D for Method)		

¹ The surface water shall be tested in the first quarter of 1996 for the entire list of COCs listed in Table III. Those COCs that are detected will be analyzed in the Spring of 1996. Any COCs detected in the retest sample shall be included in the COC list for ground water. Thereafter, the COCs for the surface water monitoring program shall include those COCs detected and any COCs detected under the leachate monitoring program.

* To be monitored quarterly for one year in order to determine a concentration limit.

MONITORING AND REPORTING PROGRAM
LOYALTON SANITARY LANDFILL FACILITY
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6. Unsaturated Zone Monitoring

The monitoring network consists of background vacuum lysimeters LS-2, LS-3, which are near monitoring wells 2 and 3, respectively. The lysimeters shall be checked at each monitoring event, and if moisture is present, a sample shall be taken and analyzed at the frequency and for the monitoring parameters specified in Table IV.

Unsaturated Zone monitoring reports shall be submitted with the corresponding semi-annual ground water monitoring and shall include evaluation of potential impacts of the facility on the unsaturated zone and compliance with the Water Quality Protection Standard.

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TABLE IV - UNSATURATED ZONE MONITORING PROGRAM

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Field Parameters		
Specific Conductance*	μ mhos/cm	Semi-annual
pH*	number	Semi-annual
Monitoring Parameters		
Total Dissolved Solids (TDS)*	mg/L	Semi-annual
Chloride*	mg/L	Semi-annual
Sulfate*	mg/L	Semi-annual
Nitrate - Nitrogen*	mg/L	Semi-annual
Constituents of Concern¹		
Total Organic Carbon*	mg/L	5 years
Carbonate*	mg/L	5 years
Bicarbonate*	mg/L	5 years
Alkalinity*	mg/L	5 years
Volatile Organic Compounds* (EPA Method 8260)	μ g/L	5 years
Semi-Volatile Organic Compounds (EPA Method 8270)	μ g/L	5 years
Organochlorine Pesticide, PCBs (EPA Method 8080)	μ g/L	5 years
Chlorophenoxy Herbicides (EPA Method 8150)	μ g/L	5 years
Organophosphorus Compounds (EPA Method 8140)	μ g/L	5 years
Inorganics* (dissolved) (See Attachment D for Method)	mg/L	5 years

¹ The unsaturated zone shall be tested in the first quarter of 1996 for the entire list of COCs listed in Table IV. Those COCs that are detected will be analyzed in the Spring of 1996. Any COCs detected in the retest sample shall be included in the COC list for ground water. Thereafter, the COCs for the unsaturated zone monitoring program shall include those COCs detected and any COCs detected under the leachate monitoring program.

* To be monitored quarterly for one year in order to determine a concentration limit.

D. WATER QUALITY PROTECTION STANDARD

The Water Quality Protection Standard (Standard) consists of the following elements:

- a. Constituents of Concern;
- b. Concentration Limits;
- c. Monitoring Points;
- d. Points of Compliance; and
- e. Compliance Period.

Each of these is described as follows:

1. Constituents of Concern

The 'COC list' (list of Constituents of Concern required under 23 CCR 2550.3) shall include all constituents listed in Tables I, II, III and IV (above), the Waste Discharge Requirements No.96-026, and all constituents listed in Attachment D. The Discharger shall monitor all COCs every five years, or more frequently as required.

2. Concentration Limits

The Concentration Limit for any given Constituent of Concern or Monitoring Parameter in a given monitored medium (i.e., the uppermost aquifer) at a landfill shall be as follows, and shall be used as the basis of comparison with data from the Monitoring Points in that monitored medium:

- a. The background value established in the WDRs by the Board for that constituent and medium;
- b. The constituent's background value, established anew during each Reporting Period using only data from all samples collected during that Reporting Period from the Background Monitoring Points for that monitored medium. Either:
 - (1) The mean (or median, as appropriate) and standard deviation (or other measure of central tendency, as appropriate) of the constituent's background data; or
 - (2) The constituent's MDL, in cases where less than 10 percent of the background samples exceed the constituent's MDL; or

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- c. A concentration limit greater than background, as approved by the Board for use during or after corrective action.

Concentration limits for synthetic constituents in ground water, surface water, and the vadose zones shall be set at the analytical detection limits. Concentration limits for metals and general water quality parameters shall be calculated using the tolerance interval method and the historical analytical data for these wells when sufficient data is available.

3. Monitoring Points

The monitoring points for evaluation monitoring shall be the upgradient monitoring wells MW-6, and, downgradient wells MW-2, MW-3 and MW-5 and the maintenance yard well. The monitoring points for surface water shall be the stations at the diverted drainage upstream and downstream of the landfill. The monitoring points for vadose zone monitoring shall be the downgradient lysimeters LS-2 and LS-3.

4. Points of Compliance

The points of compliance for ground water are monitoring well MW-5 and the maintenance yard well. The points of compliance for surface water monitoring shall be at stations at the diverted drainage upstream and downstream of the landfill.

5. Compliance Period

The Compliance Period is the number of years equal to the active life of the landfill plus the closure period. Each time the Standard is exceeded (i.e., a release is discovered), the landfill begins a Compliance Period on the date the Board directs the Discharger to begin an Evaluation Monitoring Program. If the Discharger's Corrective Action Program (CAP) has not achieved compliance with the Standard by the scheduled end of the Compliance Period, the Compliance Period is automatically extended until the landfill has been in continuous compliance for at least three consecutive years.

MONITORING AND REPORTING PROGRAM
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The Discharger shall implement the above monitoring program on the effective date of this Order.

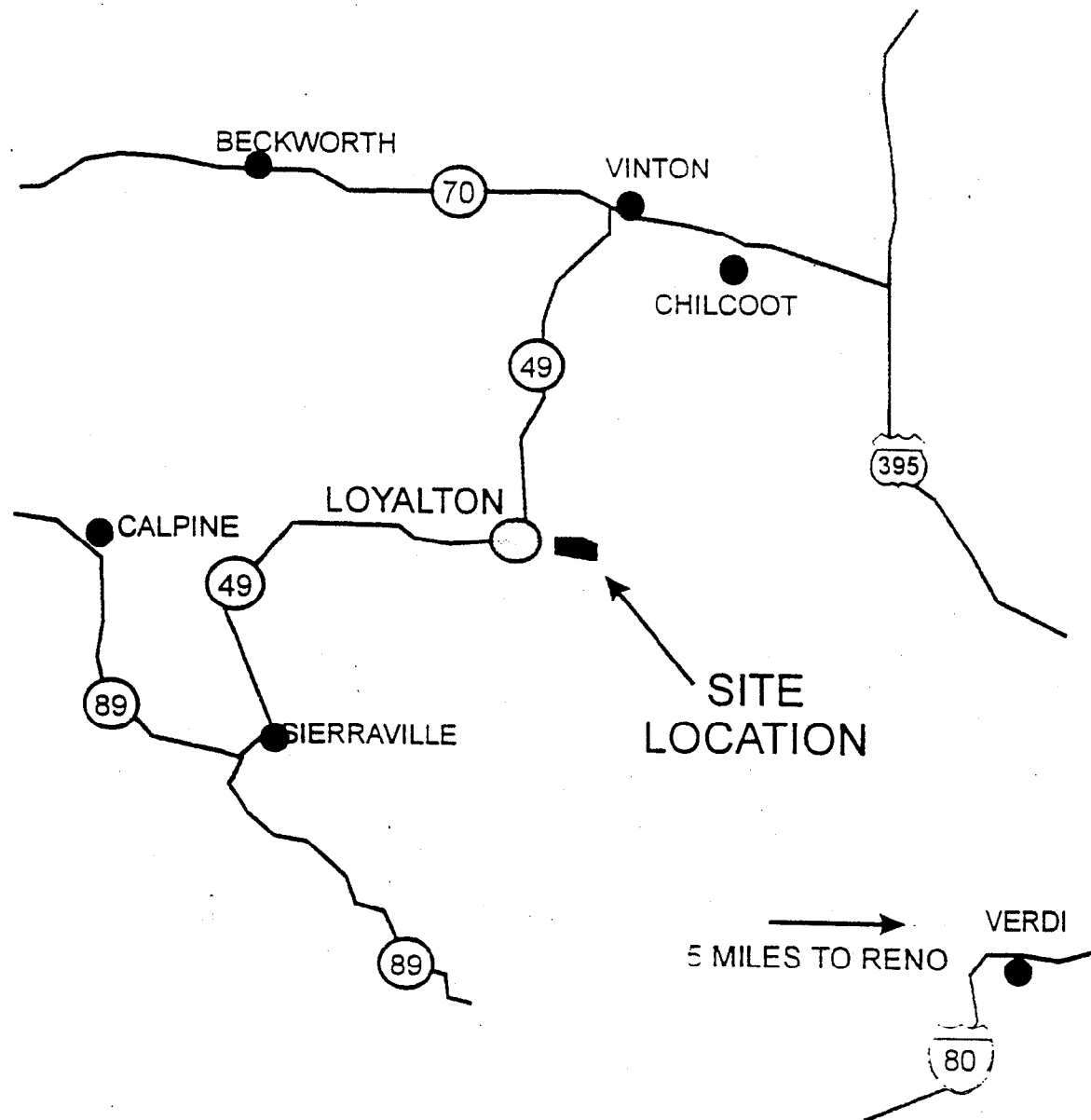
Ordered by: Thomas R Pinker
for WILLIAM H. CROOKS, Executive Officer

26 January 1996

(Date)

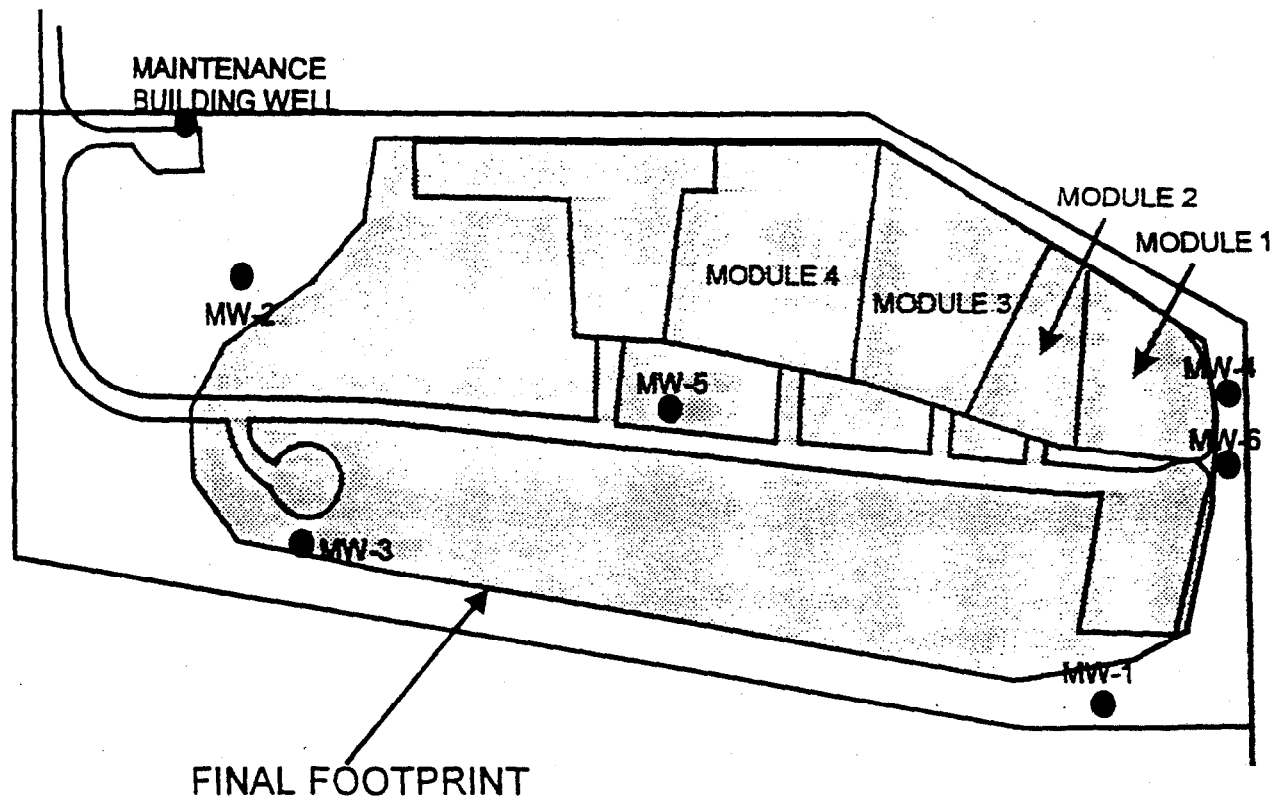
Attachments
WJM/NMC/NJS

ATTACHMENT A



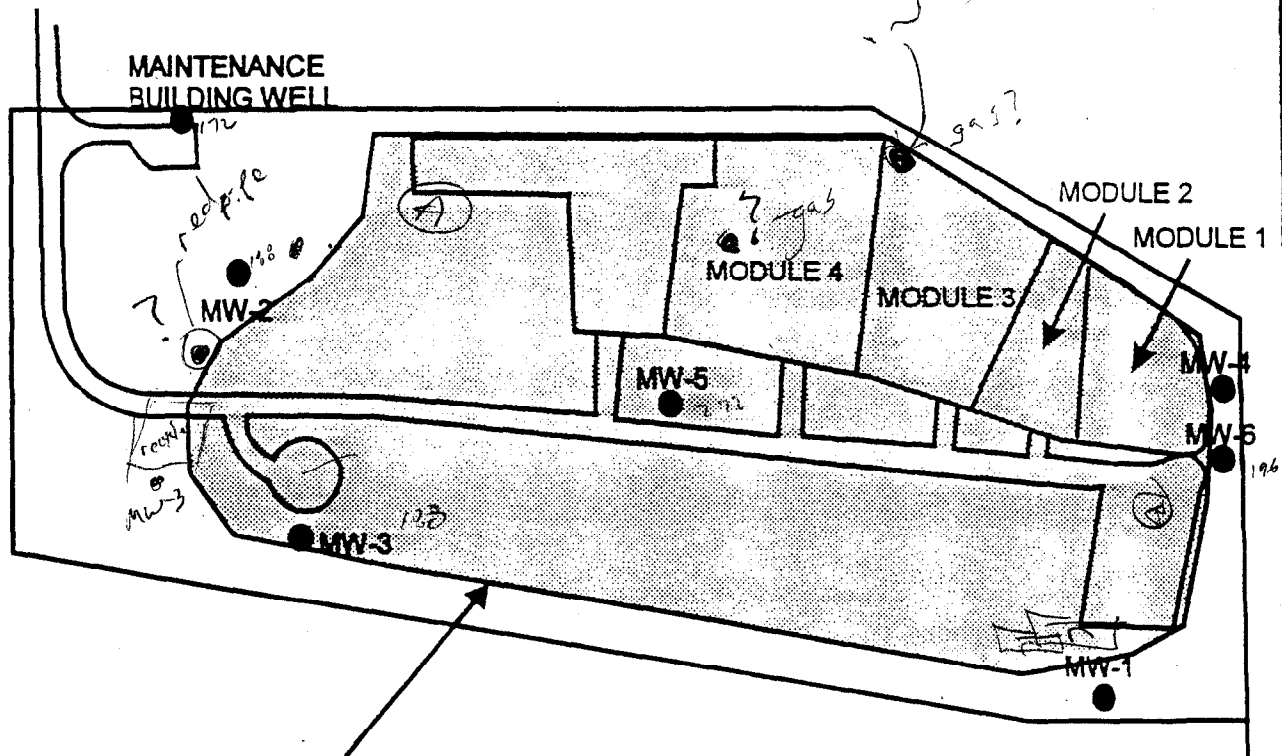
SITE LOCATION MAP
LOYALTON SANITARY LANDFILL
SIERRA COUNTY, CA

NOT TO SCALE



FACILITY LAYOUT MAP
LOYALTON SANITARY LANDFILL
SIERRA COUNTY, CA
NOT TO SCALE

ATTACHMENT B



FINAL FOOTPRINT



FACILITY LAYOUT MAP
LOYALTON SANITARY LANDFILL
SIERRA COUNTY, CA

NOT TO SCALE

WASTE DISCHARGE REQUIREMENTS
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MONITORING PARAMETERS FOR DETECTION MONITORING

Surrogates for Metallic Constituents:

pH
Total Dissolved Solids
Specific Conductivity
Chloride
Sulfate
Nitrate nitrogen

Constituents included in VOC_{water} (by USEPA Method 8260):

Acetone
Acrylonitrile
Benzene
Bromochloromethane
Bromodichloromethane
Bromoform (Tribromomethane)
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane (Ethyl chloride)
Chloroform (Trichloromethane)
Dibromochloromethane (Chlorodibromomethane)
1,2-Dibromo-3-chloropropane (DBCP)
1,2-Dibromoethane (Ethylene dibromide; EDB)
o-Dichlorobenzene (1,2-Dichlorobenzene)
p-Dichlorobenzene (1,4-Dichlorobenzene)
trans-1,4-Dichloro-2-butene
1,1-Dichloroethane (Ethylidene chloride)
1,2-Dichloroethane (Ethylene dichloride)
1,1-Dichloroethylene (1,1-Dichloroethene; Vinylidene chloride)
cis-1,2-Dichloroethylene (cis-1,2-Dichloroethene)
trans-1,2-Dichloroethylene (trans-1,2-Dichloroethene)
1,2-Dichloropropane (Propylene dichloride)
cis-1,3-Dichloropropene

WASTE DISCHARGE REQUIREMENTS
LOYALTON SANITARY LANDFILL FACILITY
CLASS III LANDFILL
SIERRA COUNTY

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Attachment C (continued)

trans-1,3-Dichloropropene
Ethylbenzene
2-Hexanone (Methyl butyl ketone)
Methyl bromide (Bromomethene)
Methyl chloride (Chloromethane)
Methylene bromide (Dibromomethane)
Methylene chloride (Dichloromethane)
Methyl ethyl ketone (MEK; 2-Butanone)
Methyl iodide (Iodomethane)
4-Methyl-2-pentanone (Methyl isobutylketone)
Styrene
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene)
Toluene
1,1,1-Trichloroethane (Methylchloroform)
1,1,2-Trichloroethane
Trichloroethylene (Trichloroethene)
Trichlorofluoromethane (CFC-11)
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride
Xylenes

WASTE DISCHARGE REQUIREMENTS
 LOYALTON SANITARY LANDFILL FACILITY
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CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Inorganics (by USEPA Method):

Aluminum	6010	Tin	6010
Antimony	6010	Vanadium	6010
Barium	6010	Zinc	6010
Beryllium	6010	Arsenic	7061
Cadmium	6010	Lead	7421
Chromium	6010	Mercury	7470
Chromium VI ⁺	7197	Nickel	7520
Cobalt	6010	Selenium	7741
Copper	6010	Thallium	7841
Iron	6010	Cyanide	9010
Manganese	6010	Sulfide	9030
Silver	6010		

Report all peaks identified by the EPA test methods. Ground water and leachate samples shall be analyzed and reported as dissolved. Surface water samples shall be analyzed and reported as total recoverable metals as specified in EPA-600/4-79-020 dated March 1993. Unsaturated zone water samples shall be analyzed and reported as totals.

Volatile Organics (USEPA Method 8260):

Acetone
 Acetonitrile (Methyl cyanide) Acrolein
 Acrylonitrile
 Allyl chloride (3-Chloropropene)
 Benzene
 Bromochloromethane (Chlorobromomethane)
 Bromodichloromethane (Dibromochloromethane)
 Bromoform (Tribromomethane)
 Carbon disulfide
 Carbon tetrachloride
 Chlorobenzene
 Chloroethane (Ethyl chloride)
 Chloroform (Trichloromethane)
 Chloroprene
 Dibromochloromethane (Chlorodibromomethane)
 1,2-Dibromo-3-chloropropane (DBCP)
 1,2-Dibromoethane (Ethylene dibromide; EDB)
 o-Dichlorobenzene (1,2-Dichlorobenzene)
 m-Dichlorobenzene (1,3-Dichlorobenzene)
 p-Dichlorobenzene (1,4-Dichlorobenzene)

WASTE DISCHARGE REQUIREMENTS
LOYALTON SANITARY LANDFILL FACILITY
CLASS III LANDFILL
SIERRA COUNTY

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Attachment D (continued)

trans- 1,4-Dichloro-2-butene
Dichlorodifluoromethane (CFC 12)
1,1-Dichloroethane (Ethylidene chloride)
1,2-Dichloroethane (Ethylene dichloride)
1,1-Dichloroethylene (1,1-Dichloroethene; Vinylidene chloride)
cis- 1,2-Dichloroethylene (cis- 1,2-Dichloroethene)
trans- 1,2-Dichloroethylene (trans- 1,2-Dichloroethene)
1,2-Dichloropropane (Propylene dichloride)
1,3-Dichloropropane (Trimethylene dichloride)
2,2-Dichloropropane (Isopropylidene chloride)
1,1 -Dichloropropene
cis- 1,3-Dichloropropene
trans- 1,3-Dichloropropene
Ethylbenzene
Hexachlorobutadiene
2-Hexanone (Methyl butyl ketone)
Isobutyl alcohol
Isodrin
Methacrylonitrile
Methyl bromide (Bromomethane)
Methyl chloride (Chloromethane)
Methyl ethyl ketone (MEK; 2-Butanone)
Methyl iodide (Iodomethane)
Methyl methacrylate
4-Methyl-2-pentanone (Methyl isobutyl ketone)
Methylene bromide (Dibromomethane)
Methylene chloride (Dichloromethane)
Naphthalene
Propionitrile (Ethyl cyanide)
Styrene
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene; PCE)
Toluene
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane, Methylchloroform
1,1,2-Trichloroethane
Trichloroethylene (Trichloroethene; TCE)
Trichlorofluoromethane (CFC- 11)
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride (Chloroethene)
Xylene (total)

WASTE DISCHARGE REQUIREMENTS
LOYALTON SANITARY LANDFILL FACILITY
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Semivolatile Organics (USEPA Method 8270 - base, neutral, & acid extractables):

Acenaphthene
Acenaphthylene
Acetophenone
2-Acetylaminofluorene (2-AAF)
Aldrin
4-Aminobiphenyl
Anthracene
Benzo[a]anthracene (Benzanthracene)
Benzo[b]fluoranthene
Benzo[k]fluoranthene
Benzo[g,h,i]perylene
Benzo[a]pyrene
Benzyl alcohol
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC (Lindane)
Bis(2-chloroethoxy)methane
Bis(2-chloroethyl) ether (Dichloroethyl ether)
Bis(2-chloro-1-methylethyl) ether (Bis(2-chloroisopropyl) ether; DCIP)
Bis(2-ethylhexyl) phthalate
4-Bromophenyl phenyl ether
Butyl benzyl phthalate (Benzyl butyl phthalate)
Chlordane
p-Chloroaniline
Chlorobenzilate
p-Chloro-m-cresol (4-Chloro-3-methylphenol)
2-Chloronaphthalene
2-Chlorophenol
4-Chlorophenyl phenyl ether
Chrysene o-Cresol (2-methylphenol)
m-Cresol (3-methylphenol)
p-Cresol (4-methylphenol)
4,4'-DDD
4,4'-DDE
4,4'-DDT
Diallate
Dibenz[a,h]anthracene
Dibenzofuran
Di-n-butyl phthalate
o-Dichlorobenzene (1,2-Dichlorobenzene)
m-Dichlorobenzene (1,3-Dichlorobenzene)
p-Dichlorobenzene (1,4-Dichlorobenzene)
3,3'-Dichlorobenzidine

WASTE DISCHARGE REQUIREMENTS
LOYALTON SANITARY LANDFILL FACILITY
CLASS III LANDFILL
SIERRA COUNTY

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Attachment D (continued)

2,4-Dichlorophenol
2,6-Dichlorophenol
Dieldrin
Diethyl phthalate
p-(Dimethylamino)azobenzene
7,12-Dimethylbenz[a]anthracene
3,3'-Dimethylbenzidine
2,4-Dimethylphenol (m-Xylenol)
Dimethyl phthalate
m-Dinitrobenzene
4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-n-octyl phthalate
Diphenylamine
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Ethyl methacrylate
Ethyl methanesulfonate
Famphur
Fluoranthene
Fluorene
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Hexachloropropene
Indeno(1,2,3-c,d)pyrene
Isophorone
Isosafrole
Kepone
Methapyrilene
Methoxychlor
3-Methylcholanthrene
Methyl methanesulfonate
2-Methylnaphthalene
Naphthalene
1,4-Naphthoquinone

WASTE DISCHARGE REQUIREMENTS
LOYALTON SANITARY LANDFILL FACILITY
CLASS III LANDFILL
SIERRA COUNTY

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Attachment D (continued)

1-Naphthylamine
2-Naphthylamine
o-Nitroaniline (2-Nitroaniline)
m-Nitroaniline (3-Nitroaniline)
p-Nitroaniline (4-Nitroaniline)
Nitrobenzene
o-Nitrophenol (2-Nitrophenol)
p-Nitrophenol (4-Nitrophenol)
N-Nitrosodi-n-butylamine (Di-n-butyl nitrosamine)
N-Nitrosodiethylamine (Diethyl nitrosamine)
N-Nitrosodimethylamine (Dimethyl nitrosamine)
N-Nitrosodiphenylamine (Diphenyl nitrosamine)
N-Nitrosodipropylamine (N-Nitroso-N-dipropylamine; Di-n-propyl nitrosamine)
N-Nitrosomethylethylamine (Methylethyl nitrosamine)
N-Nitrosopiperidine
N-Nitrosospyrrolidine
5-Nitro-o-toluidine
Pentachlorobenzene
Pentachloronitrobenzene (PCNB)
Pentachlorophenol
Phenacetin
Phenanthrene
Phenol
p-Phenylenediamine
Polychlorinated biphenyls (PCBs; Aroclors)
Pronamide
Pyrene
Safrole
1,2,4,5-Tetrachlorobenzene
2,3,4,6-Tetrachlorophenol
o-Toluidine
Toxaphene
1,2,4-Trichlorobenzene
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
0,0,0-Triethyl phosphorothioate
sym-Trinitrobenzene

WASTE DISCHARGE REQUIREMENTS
LOYALTON SANITARY LANDFILL FACILITY
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Organophosphorus Compounds (USEPA Method 8141):

0,0-Diethyl 0-2-pyrazinyl phosphorothioate (Thionazin)
Dimethoate
Disulfoton
Methyl parathion (Parathion methyl)
Parathion
Phorate

Chlorinated Herbicides (USEPA Method 8150):

2,4-D (2,4-Dichlorophenoxyacetic acid)
Dinoseb (DNBP; 2-sec-Butyl-4,6-dinitrophenol)
Silvex (2,4,5-Trichlorophenoxypropionic acid; 2,4,5-TP)
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)

INFORMATION SHEET

LOYALTON SANITARY LANDFILL FACILITY CLASS III LANDFILL SIERRA COUNTY

The County of Sierra currently discharges 'nonhazardous solid waste' and 'inert waste' at Loyalton Sanitary Landfill, a 29 acre site 0.75 miles east-southeast of Loyalton. The landfill has operated since October 1978 and will continue receiving municipal solid waste until the landfill reaches a maximum capacity of 744,000 cubic yards. Based on a discharge rate of about 9 tons per day the landfill is expected to reach this capacity, at the earliest, by the year 2032.

The site is in Sierra Valley within a mountainous, rural region. The elevation of the site is about 5000 feet and annual precipitation is less than 25 inches. Surface water runoff discharges to Smithneck Creek, a tributary to the Middle Fork of the Feather River which flows to the Sacramento River. The beneficial uses of these waters are domestic, agricultural, and industrial supply; ground water recharge; recreation; esthetic enjoyment; fresh water replenishment; and the preservation and enhancement of fish, wildlife and other aquatic resources.

These waste Discharge Requirements replace Order No. 90-143, which previously regulated the site. Order No. 90-143 was amended in 1993 by Order No. 93-200 which imposed requirements of RCRA Subtitle D. Since Order No. 93-200 was a broad order applicable to all municipal solid waste landfills within the Central Valley Region, it is necessary to update Order No. 90-143 as amended by Order 93-200 in order to include the applicable provisions of RCRA Subtitle D in waste discharge requirements. Specifically, these new waste discharge requirements update the monitoring program and provide an exemption to the RCRA Subtitle D liner requirements.

In order to qualify for a liner exemption, the Loyalton Landfill must: (1) receive less than 20 tons of waste per day on an average annual basis, (2) receive less than 25 inches of precipitation on an annual basis and (3) the community served by the landfill must have no practicable waste disposal alternative. The Loyalton Landfill meets all of these criteria.